



# *Soda Springs P4 Plant - Superfund Update*



**Welcome  
Mayor Robinson,  
Councilmember Hart, and  
Director Skinner**

September 26, 2018/City of Soda Springs  
Officials & Staff/Jason Maughan





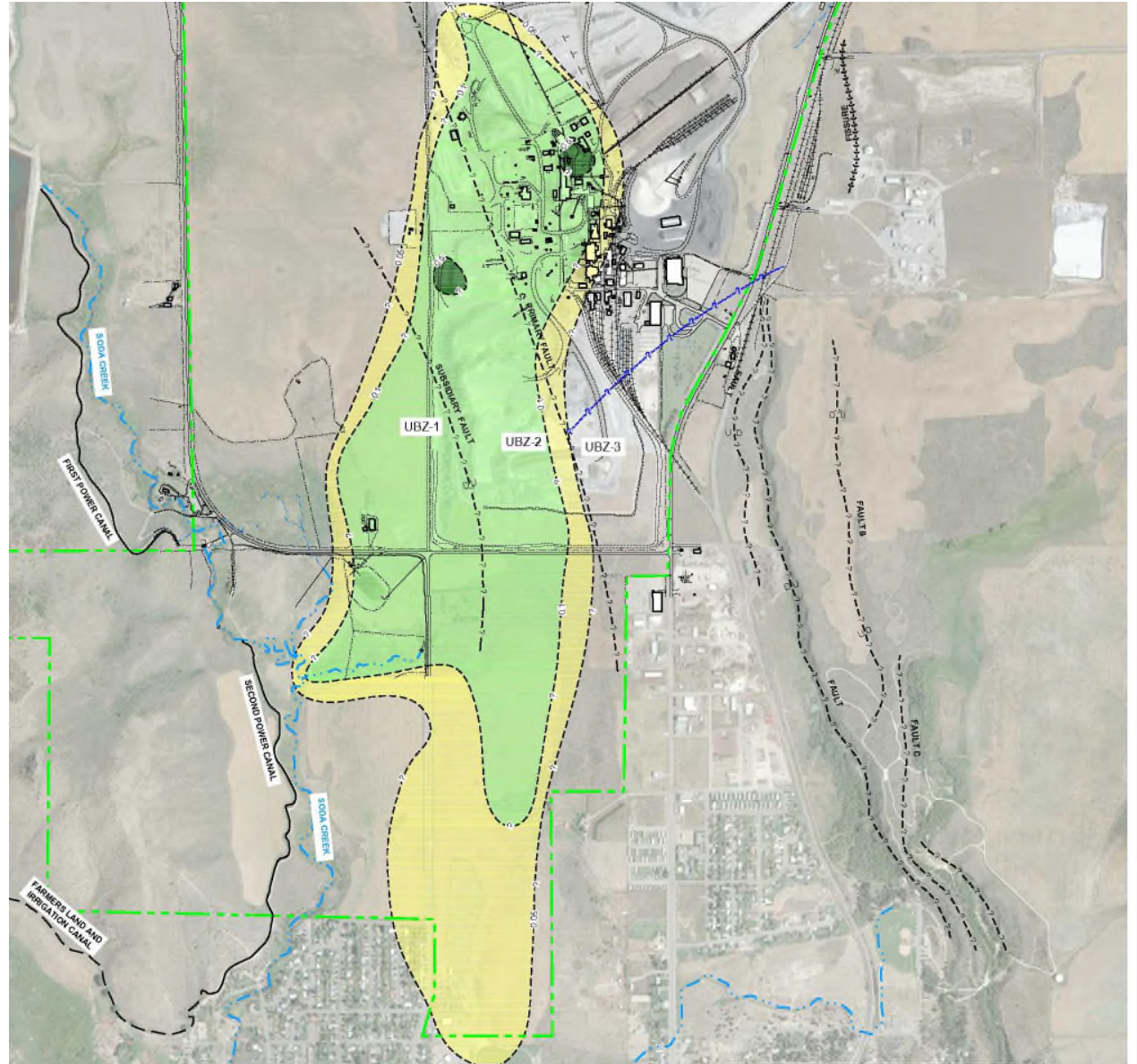
# Agenda

- // Site Status Briefing
- // Se Treatment Update
- // Path Forward
- // Questions



## Selenium Plume 2017

- // Remedial Goal (RG)= .05 mg/L
- // 50ppb = 50 ug/L (micrograms/Liter)
- // 50ppb = .05 mg/L (milligrams/Liter)
- // 50ppb = .05ppm
- // Ppm = parts per million
- // Ppb = parts per billion







## Groundwater Contamination Response

// How much water?

// Model supplemented with extensive pump testing

// Quality of Groundwater?

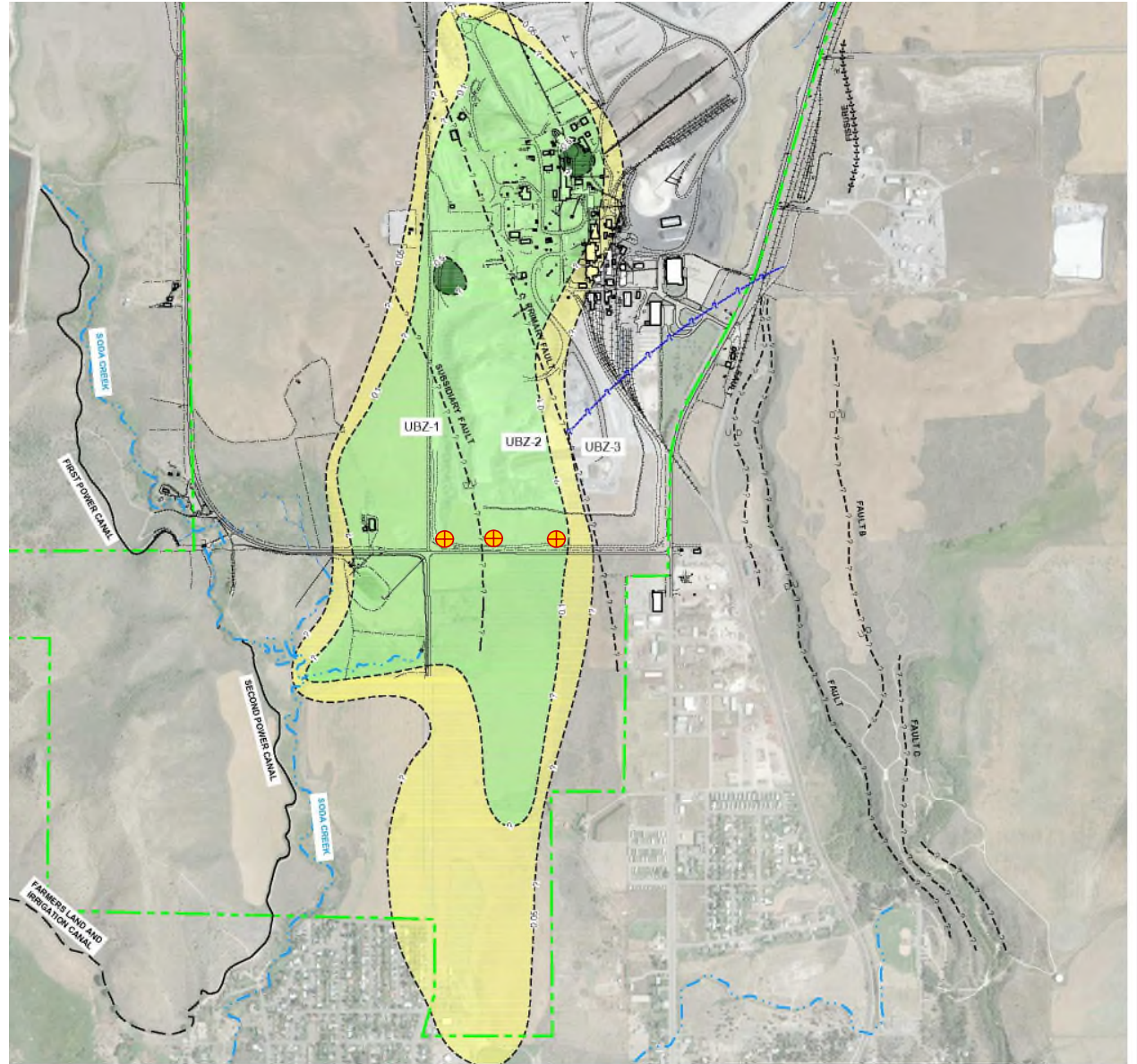
// Concentrations and changes over time...sampling during pump testing

// How to manage the water?

// Consumptive (evaporation) combined with treatment



# Plume Capture







# Selenium Plume Capture System





# Capture Wells

## Selenium Treatability

### // Pump Testing

- // Captured water kept within the plant (used to evaporation)

- // July 2017-July 2018

- // Rate: <50gpm to >400gpm (170gpm target)

  - // Rates vary due to plant usage limits and seasonal variability

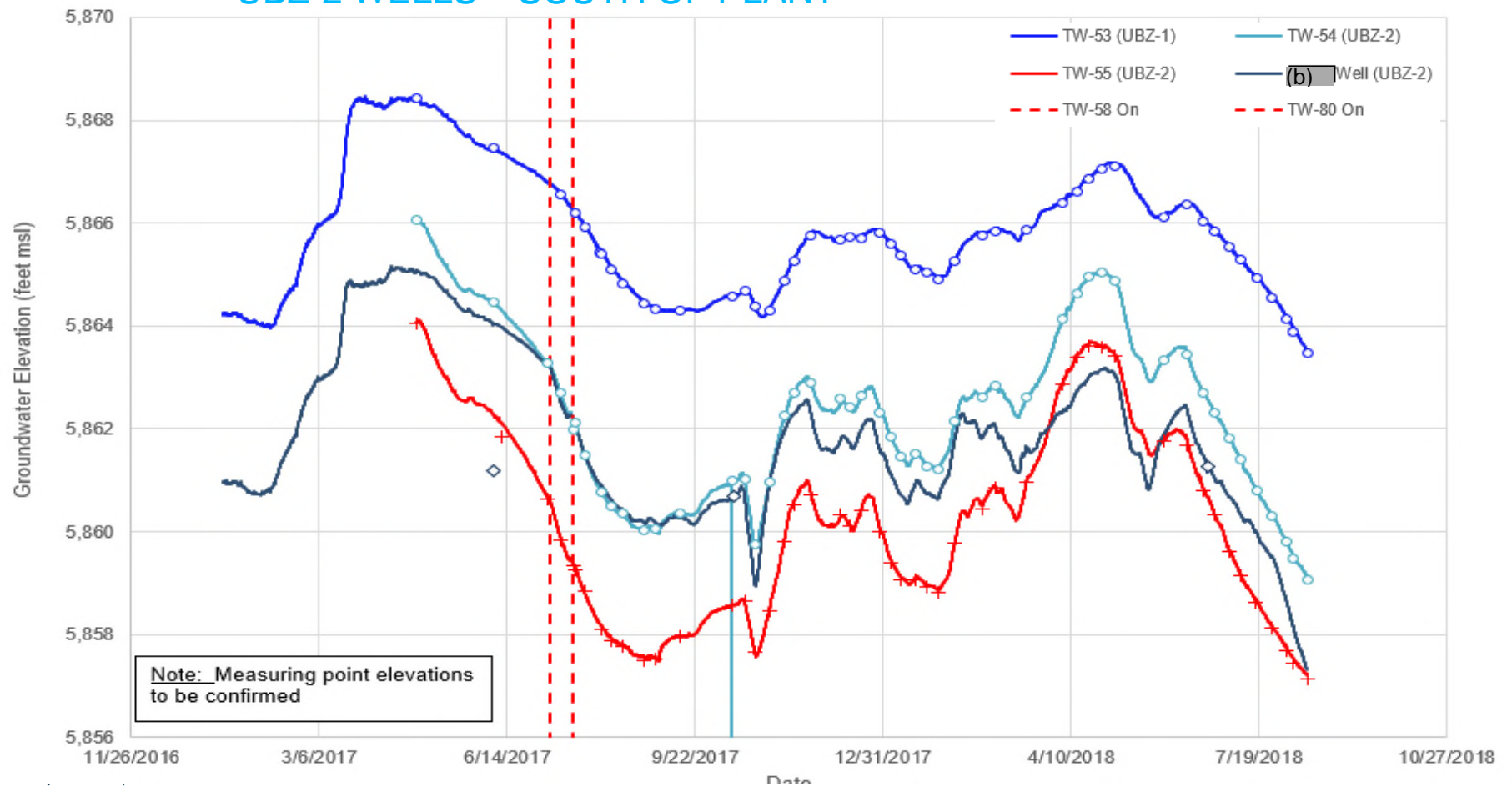
- // Selenium concentration ~250ppb (combination of 3 wells)

- // Data - input to groundwater flow model



# Pump Testing of Capture Wells

## UBZ-2 WELLS – SOUTH OF PLANT

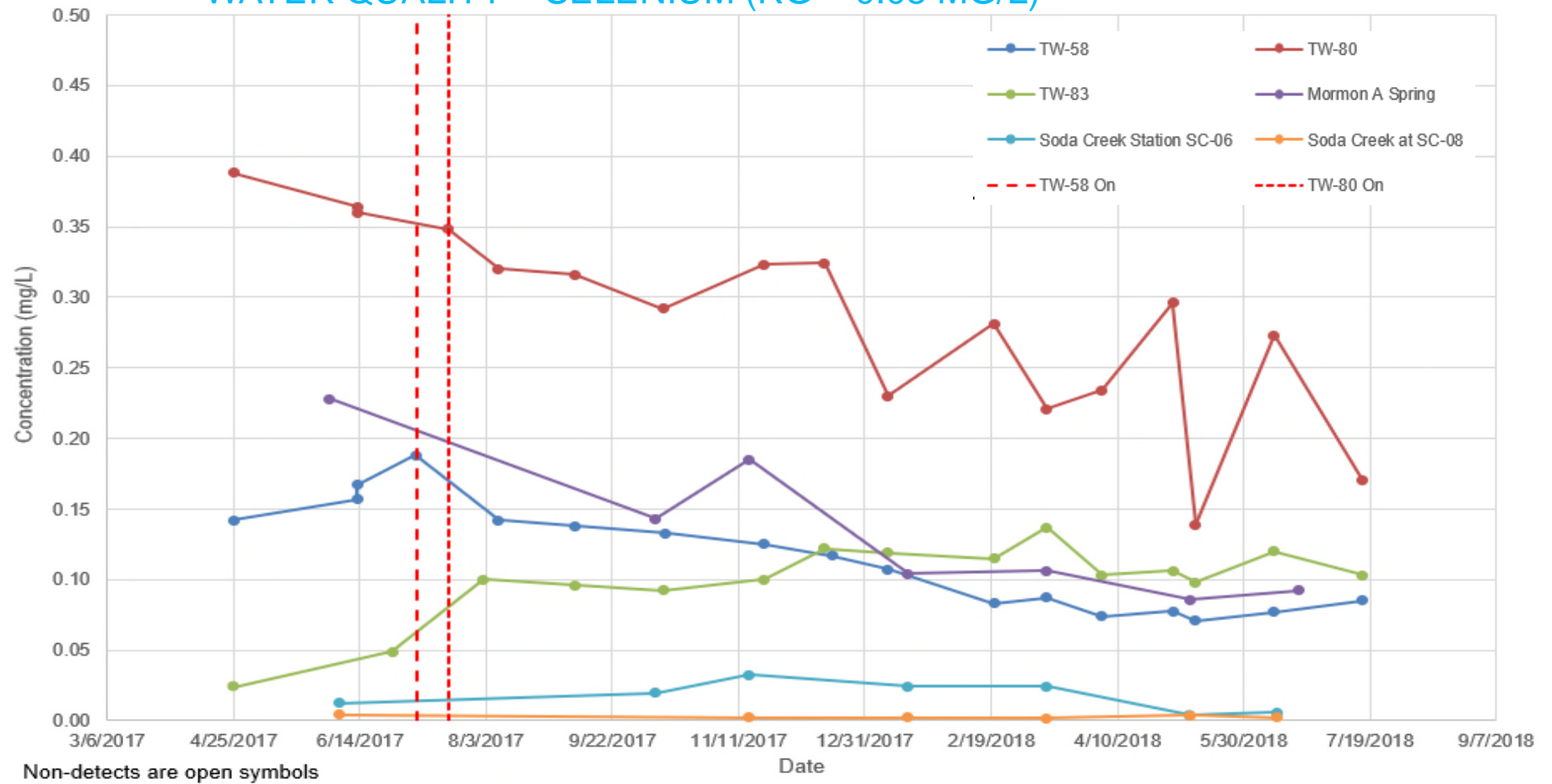






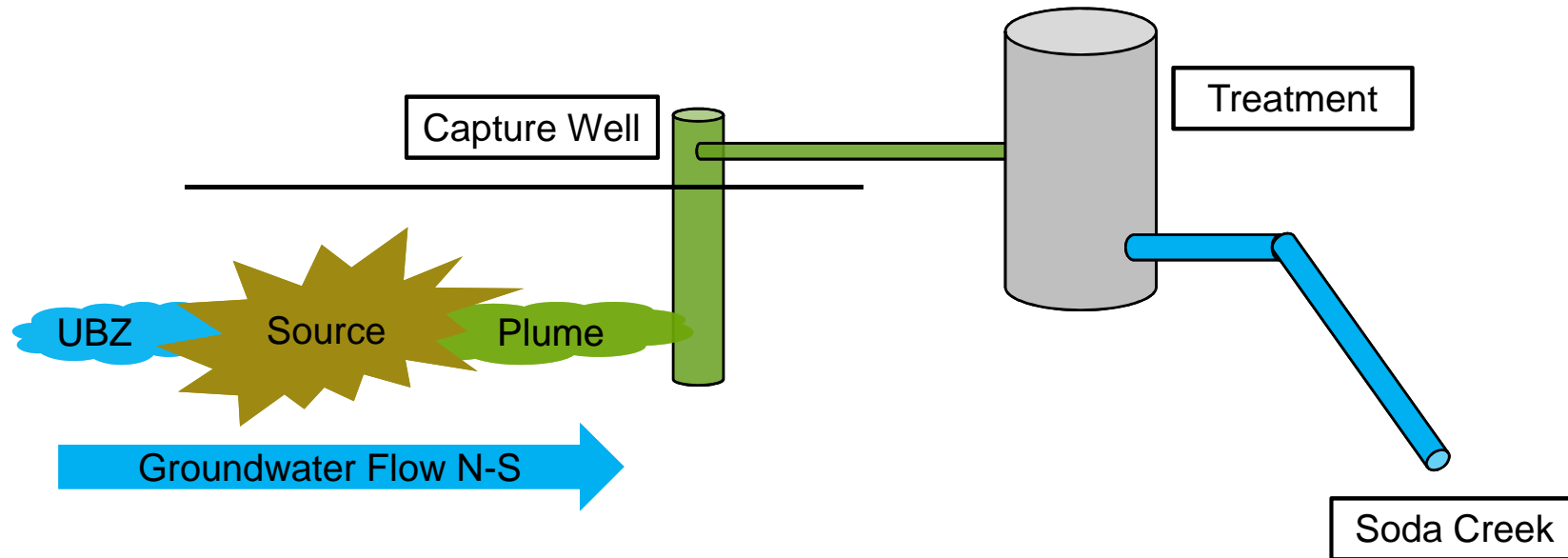
# Pump Testing of Capture Wells

WATER QUALITY – SELENIUM (RG = 0.05 MG/L)





# Selenium Plume Capture System





## Status: Water Treatment Study

### Selenium Treatability

#### // Technology Screening

- // Two vendors identified: Frontier Water Systems, SeHawk & GE, AbMet (sold to Suez)

- // Based on water chemistry and anticipated treatment goals

#### // Pilot Testing (2015-2017)

- // 4-8 months for each vendor

- // <5gpm

- // Selenium reduction from ~300ppb to <10ppb





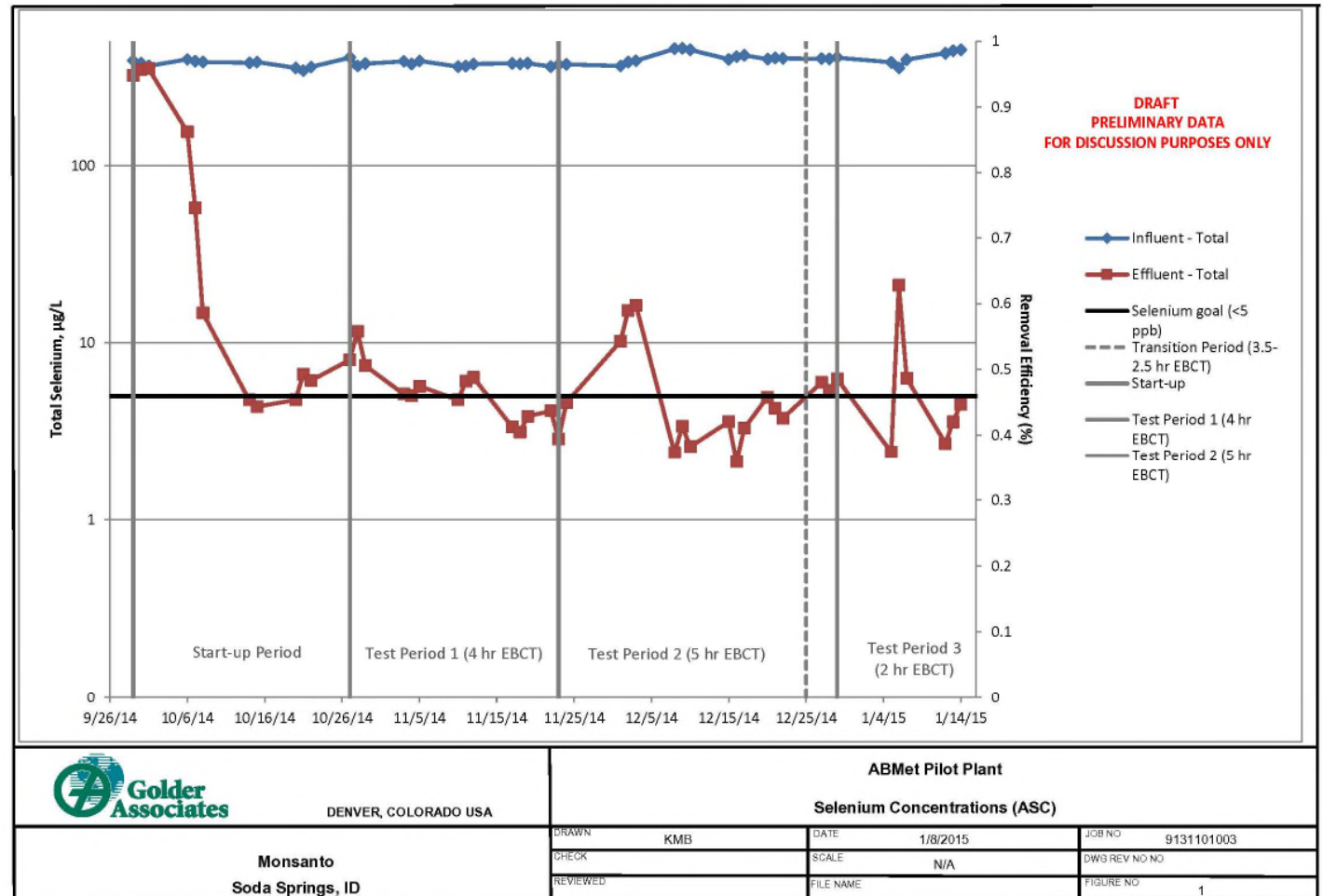
## Suez AbMet Pilot System





# Suez Water, AbMet

## Selenium Treatability





# Frontier SeHawk Pilot System

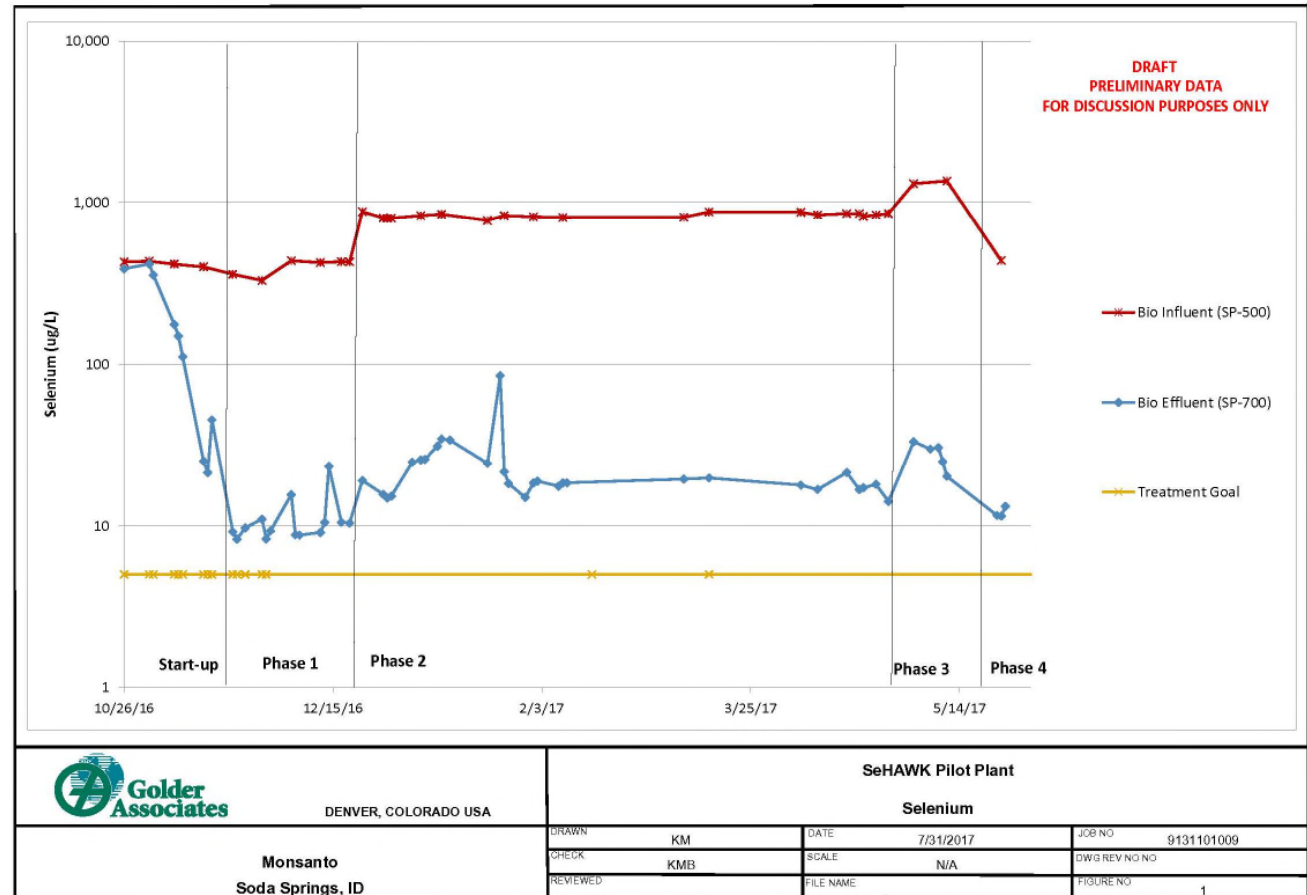






# Frontier Water Systems, SeHawk

## Selenium Treatability





# Selenium Treatment Systems

## Frontier Water Systems (SeHawk)



## Suez (AbMet)



<https://www.waterworld.com/articles/iww/print/volume-15/issue-6/features/new-effluent-limit-guidelines-for-steam-electric-power.html>



# Selenium Treatment Next Steps

## Selenium Treatability

// Water Data + Treatment Technology = Demonstration Unit:

// 400gpm

// ~300ppb influent

// <10ppb effluent

// Suez's AbMet selected based on extensive decision matrix

// Performance

// Complexity

// Cost





# Suez Selenium Treatment

Demonstration Unit

// Suez & Golder and Assoc.

// 5 reactor system + ancillary equipment

// Preliminary Engineering (30%) will be complete 10/15/18

// Bayer

// Engineering Utilities

// Structure Design

// Regulatory management



## Regulatory Process

// 8/27 Call with EPA & IDEQ

// Verbal support of Demonstration Unit concept

// 10/23 Regulator Status Update

// Site Update

// Review of 2017-2018 Activities

// Overview of 2018-2019 planned activities

// 5 Year Review Report

// Demonstration Unit, Work Plan Review & Approval



## Demonstration Unit Schedule

- // August-September 2018 site selection
- // 9/17 Surveying
- // 9/26 information review meeting with City Officials
- // 10/15 Preliminary Engineering Package
- // Late October/Early November Update to City
  - // Status and Strategic Update
  - // Seek approval and support for Treatment Proposal
  - // Seek approval for Zoning/Construction
- // February 2019 Design/Engineering complete
- // March 2019 Construction Begins
- // October-December 2019 Start-up/Commisioning



# Selenium Treatment System Siting

Demonstration Unit

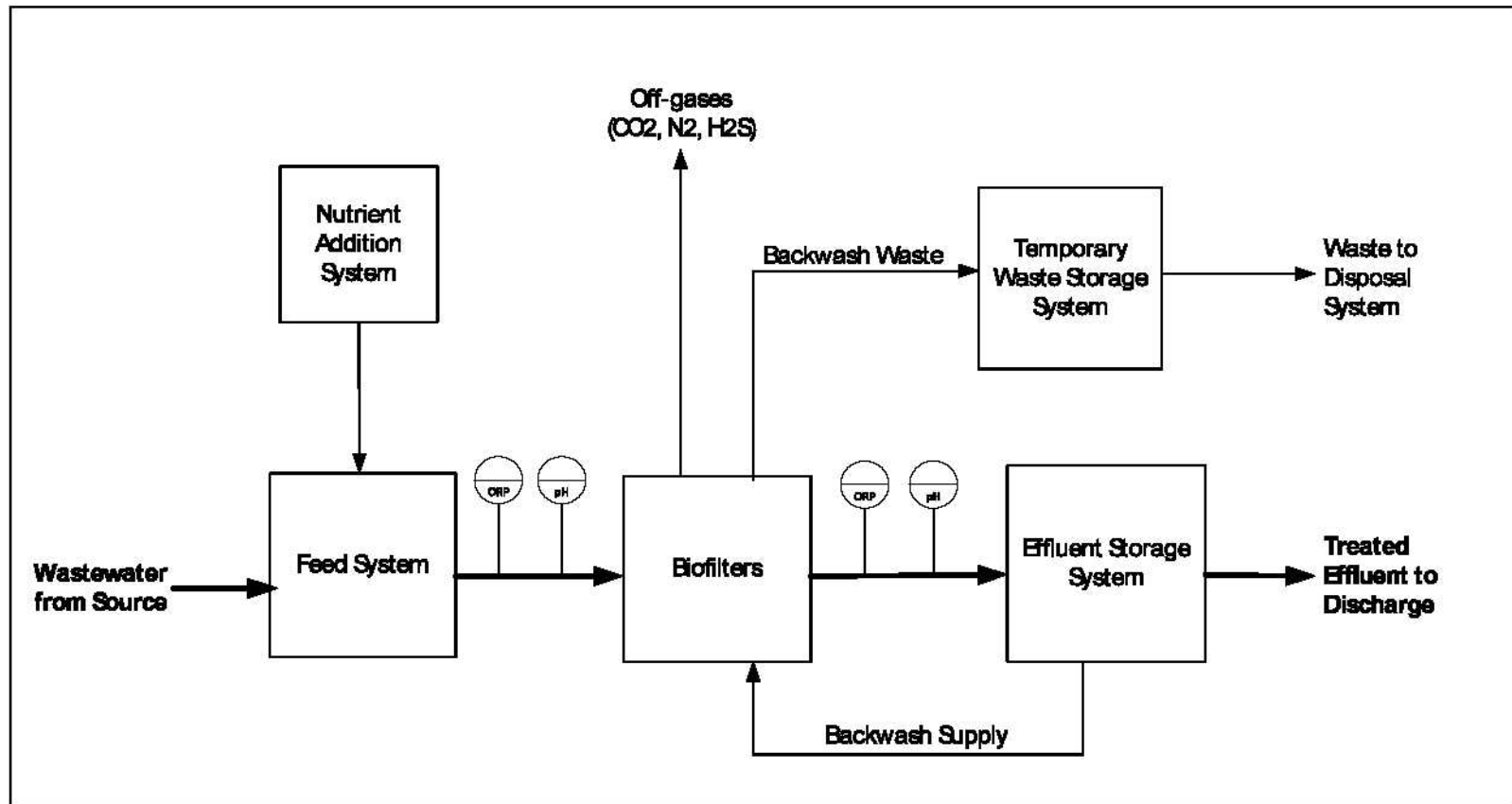
// See google earth





# Suez Selenium Treatment

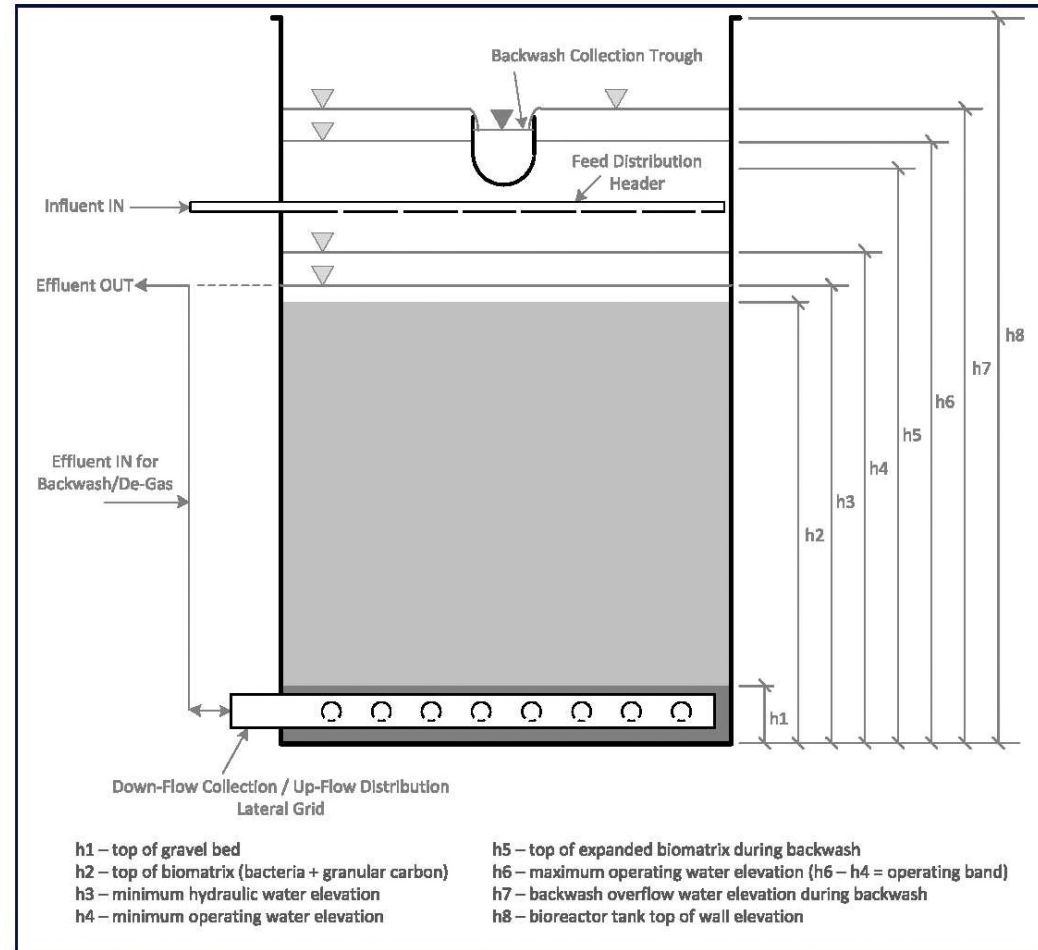
## Demonstration Unit





# Suez Selenium Treatment

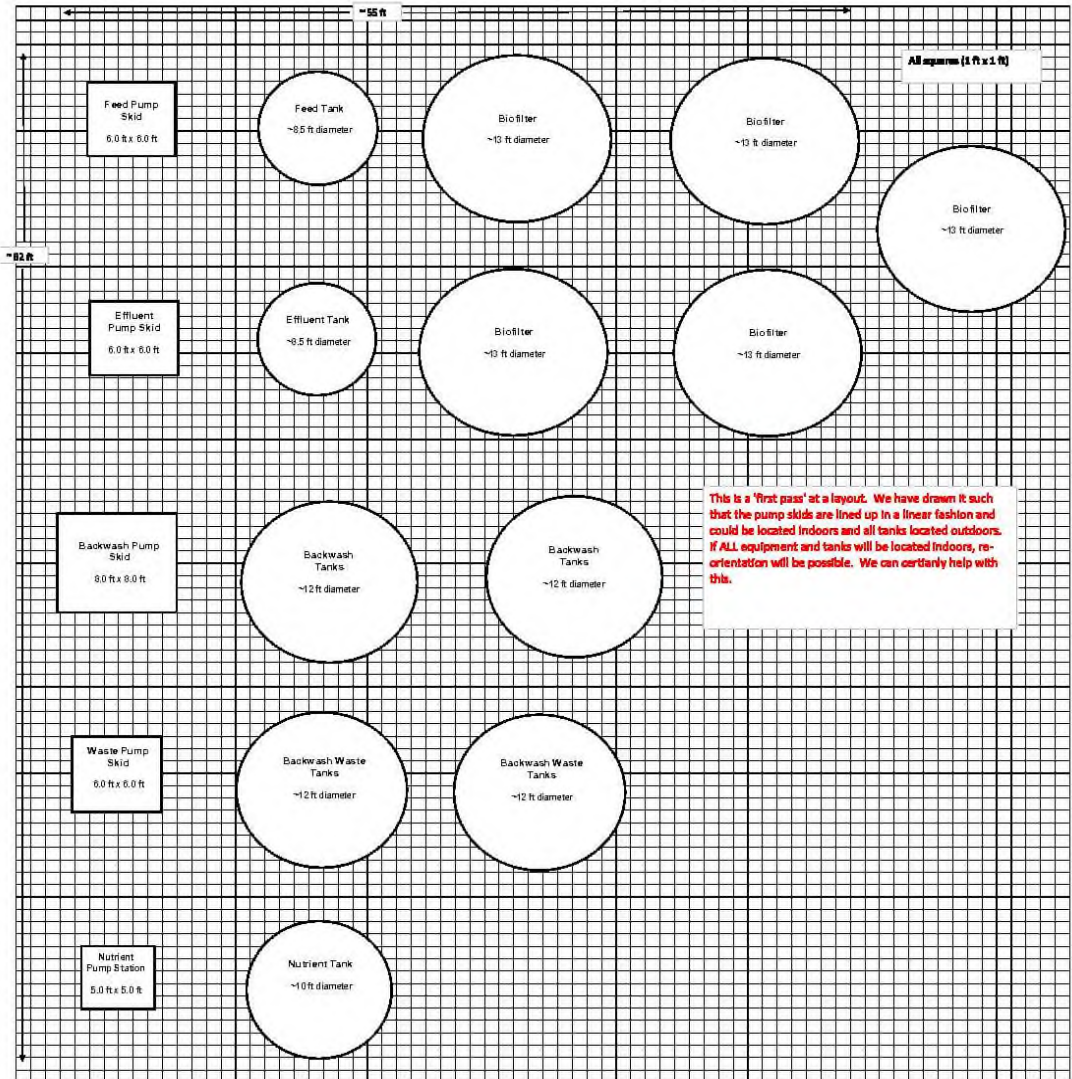
## Demonstration Unit

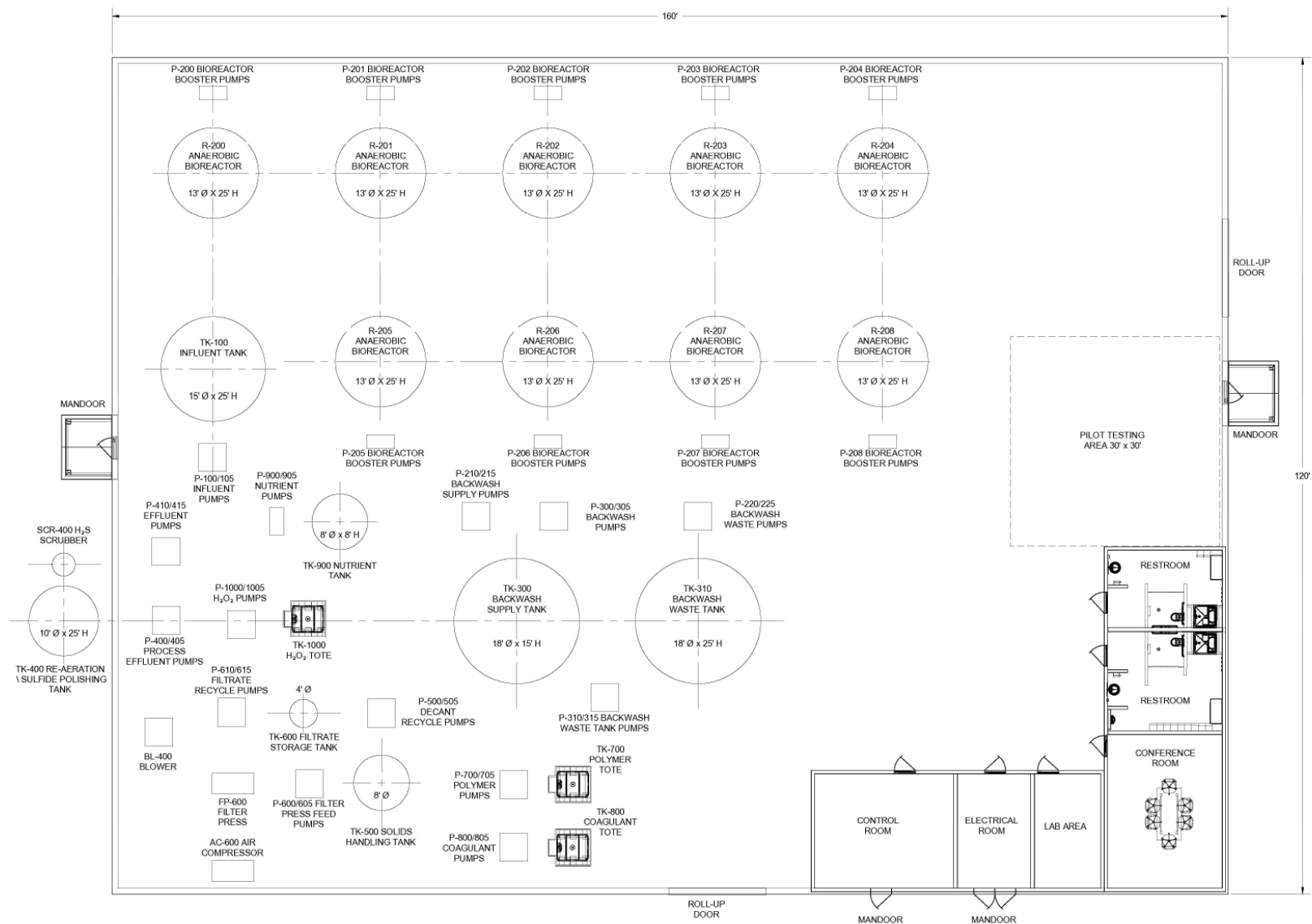




# Suez Selenium Treatment Demonstration Unit

**Monsanto Soda Springs ABMet System Wastewater Treatment System**  
Approximate Skid and Tank sizes and Relative Orientation









# *Questions?*

**Lorem ipsum dolor sit amet**



*Thank you!*



**Bye-Bye**

